FlyBy Math™ Alignment
Hawaii Content and Performance Standards III: Mathematics
Updated 9/28/05

Strand: Numbers and Operations

Standard 1. NUMBER SENSE
Understand numbers, ways of representing numbers, relationships among numbers, and number systems

Topic and Benchmark	***FlyBy Math™* Activities**
Numbers and Number Systems MA.5.1.2 Use equivalent forms of whole numbers, fractions, ratios, decimals, and percents to solve problems	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.

Strand: Geometry and Spatial Sense

Standard 8: REPRESENTATIONAL SYSTEMS:
Select and use different representational systems, including coordinate geometry

Topic and Benchmark	***FlyBy Math™* Activities**
Coordinate Geometry MA.5.8.1 Determine the distance between points along horizontal and vertical lines of a coordinate system	--Plot points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system to describe the motion of two airplanes.

Strand: Patterns, Functions, and Algebra

Standard 9: PATTERNS AND FUNCTIONAL RELATIONSHIPS:
Understand various types of patterns and functional relationships

Topic and Benchmark	***FlyBy Math™* Activities**
Patterns MA.5.9.1 Analyze patterns and functions and use generalizations to make reasonable predictions	--Represent distance, speed, and time relationship for constant speed cases using linear equations and a Cartesian coordinate system. --Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.
Function MA.5.9.2 Describe situations in which the relationship between two quantities vary directly or inversely	--Represent distance, speed, and time relationships for constant speed cases using linear equations and a Cartesian coordinate system.

Standard 10: SYMBOLIC REPRESENTATION: Use symbolic forms to represent, model, and analyze mathematical situations	
Topic and Benchmark	***FlyBy Math™* Activities**
Numeric and Algebraic Representations MA.5.10.2 Model problem situations with objects or manipulatives and use representations (e.g., graphs, tables, equations) to draw conclusions	--Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.
Rates of Change *MA.5.10.3* Describe situations with constant or varying rates (e.g., miles per hour, items per box)	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios. --Use graphs to compare airspace scenarios for both the same and different starting conditions and the same and different constant (fixed) rates.

Strand: Data Analysis, Statistics, and Probability	
Standard 12: STATISTICS: Interpret data using methods of exploratory data analysis	
Topic and Benchmark	***FlyBy Math™* Activities**
Data Interpretation MA.5.12.2 Compare different representations of the same data and evaluate how well each representation shows important aspects of the data	--Represent distance, rate, and time data using tables, line plots, bar graphs, and line graphs. --Choose among tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.